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## ABSTRACT OF THE DISCLOSURE

More precise correction of global and local  
5 distortions of microarray data and correction of  
measurement errors caused by a difference in sensitivity  
between fluorescent dyes. A data standardization unit for  
a first process inputs gene expression intensity data from  
an input device, standardizes the gene expression intensity  
10 data by using grid-by-grid order statistics on the  
assumption that most genes are in a non-expression state,  
and outputs the standardized gene expression intensity data.  
A spot-position-based correction unit for a second process  
estimates a distortion depending on a spot position on a  
15 grid by grid basis by a nonparametric smoothing method and  
outputs gene expression intensity data whose distortion  
depending on the spot position has been corrected. An S-D-  
plot-based correction unit for a third process performs an  
S-D transformation, estimates a distortion caused by a  
20 difference in sensitivity between the fluorescent dyes by  
the nonparametric smoothing method, and outputs the gene  
expression intensity data whose distortion caused by the  
difference in sensitivity between the fluorescent dyes has  
been corrected to the output device.

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